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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,772	02/22/2002	Janet K. Yamamoto	UF-267XC1	1105

23557 7590 03/26/2007
SALIWANCHIK LLOYD & SALIWANCHIK
A PROFESSIONAL ASSOCIATION
PO BOX 142950
GAINESVILLE, FL 32614-2950

EXAMINER

PARKIN, JEFFREY S

ART UNIT	PAPER NUMBER
----------	--------------

1648

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice to Comply	Application No. 10/080,772	Applicant(s) Yamamoto, J. K., et al.	
	Examiner Jeffrey S. Parkin	Art Unit 1648	Paper No. 03/19/2007

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☐ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable from of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☒ 7. Other: applicants are reminded that Sequences appearing in the specification and/or **drawings** (e.g., see Figures 2, 4, and 10) must be identified by a sequence identifier (SEQ ID NO.:) in accordance with 37 C.F.R. § 1.821(d). Sequence identifiers for sequences appearing in the drawings may appear in the Brief Description of the Drawings. Applicant must provide appropriate amendments to the specification and/or drawings inserting the required sequence identifiers. Extensive amendments may necessitate the submission of a substitute specification. If the requisite SEQ ID NOS.: are not present in the sequence listing, a substitute sequence listing will be required.

Applicant May Need to Provide:

- ☒ An substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☒ An substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

- For Rules Interpretation, call (571) 272-0951
- For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
10/080,772	02/22/2002	Yamamoto, J. K., <i>et al.</i>	UF-267XC1

EXAMINER	
Jeffrey S. Parkin, Ph.D.	
ART UNIT	PAPER NUMBER
1648	03/19/2007

DATE MAILED:

Please find below a communication from the EXAMINER in charge of this application
Commissioner of Patents

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 C.F.R. § 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 C.F.R. § 1.821-1.825 for the reason(s) set forth below or on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures. Any questions regarding compliance with the sequence rules requirements specifically should be directed to the departments listed at the bottom of the Notice to Comply. Applicants are reminded that sequences appearing in the specification and/or **drawings** (e.g., see Figures 2, 4, and 10) must be identified by a sequence identifier (SEQ ID NO.:) in accordance with 37 C.F.R. § 1.821(d). Sequence identifiers for sequences appearing in the drawings may appear in the Brief Description of the Drawings. Applicant must provide appropriate amendments to the specification and/or drawings inserting the required sequence identifiers. Extensive amendments may necessitate the submission of a substitute specification. If the requisite SEQ ID NOS.: are not present in the sequence listing, a substitute sequence listing will be required.

Applicant is given ONE MONTH, or THIRTY DAYS, whichever is longer, from the mailing date of this letter within which to comply with the sequence

rules, 37 C.F.R. § 1.821-1.825. Failure to comply with these requirements will result in **ABANDONMENT** of the application under 37 C.F.R. § 1.821(g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 C.F.R. § 1.136(a). In no case may an applicant extend the period for reply beyond the **SIX MONTH** statutory period. Direct the reply to the undersigned. Applicant is requested to return a copy of the attached Notice to Comply with the reply.

Correspondence

Any inquiry concerning this communication should be directed to Jeffrey S. Parkin, Ph.D., whose telephone number is (571) 272-0908. The examiner can normally be reached Monday through Thursday from 10:30 AM to 9:00 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Bruce R. Campell, Ph.D., can be reached at (571) 272-0974. Direct general status inquiries to the Technology Center 1600 receptionist at (571) 272-1600. Informal communications may be submitted to the Examiner's RightFAX account at (571) 273-0908.

Applicants are reminded that the United States Patent and Trademark Office (Office) requires most patent related correspondence to be: a) faxed to the Central FAX number (571-273-8300) (updated as of July 15, 2005), b) hand carried or delivered to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), c) mailed to the mailing address set forth in 37 C.F.R. § 1.1 (e.g., P.O. Box 1450, Alexandria, VA 22313-1450), or d) transmitted to the Office using the Office's Electronic Filing System. This notice replaces all prior Office notices specifying a specific fax number or hand carry address for certain patent related correspondence. For further information refer to the Updated Notice of Centralized Delivery and Facsimile Transmission Policy for Patent Related Correspondence, and Exceptions Thereto, 1292 Off. Gaz. Pat. Office 186 (March 29, 2005).

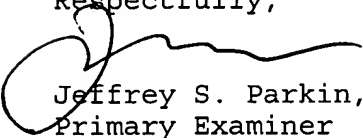
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Please direct all replies to the United States Patent and Trademark Office via one of the following: 1) Electronically submitted through EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>>, EFS Submission User Manual - ePAVE); 2) Mailed to: Mail Stop Sequence, Commissioner for Patents, P.O. Box 22313-1450, Alexandria, VA 22313-1450; and 3) Hand Carry, Federal Express, United Parcel Service or other delivery service to: U.S. Patent and

Serial No.: 10/080,772
Applicants: Haynes, B. F., et al.

Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building,
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Respectfully,



Jeffrey S. Parkin, Ph.D.
Primary Examiner
Art Unit 1648

19 March, 2007

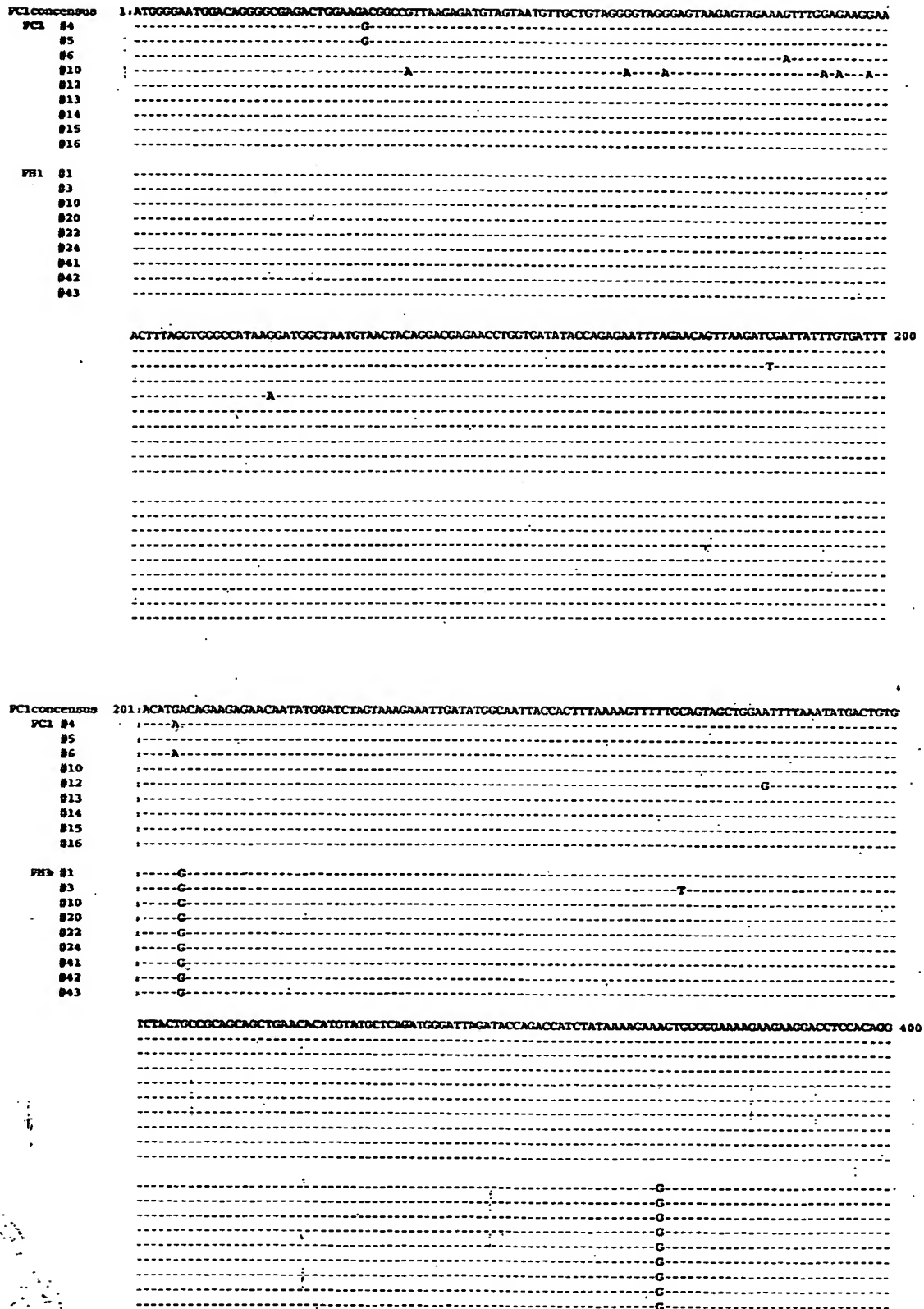


FIG. 2A

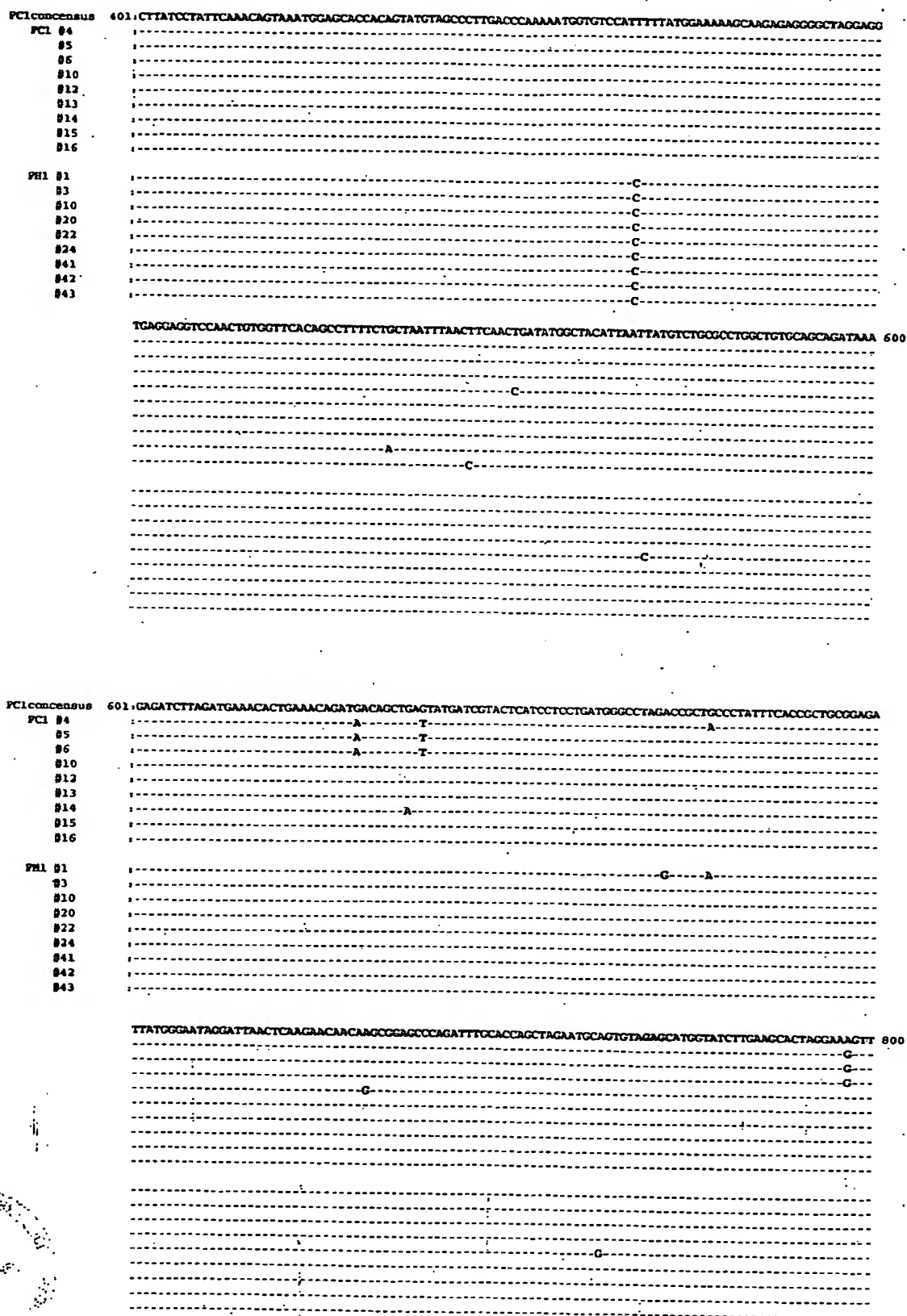


FIG. 2B

FIG. 2C

PC1 consensus 1201: AAACCTGTCCTTAGCTGCTAATTGCTGCCAAGAGGTAAAAAACCCTGGGAAACGGGAAGATGGGGCCAGCTGC

FC1 84 :A.....C.....
85 :
86 :A.....
810 :
812 :
813 :
814 :
815 :
816 :A.....

PH1 81 :
83 :
810 :
820 :
822 :
824 :
841 :
842 :
843 :

AGCCCCGGTAACCAAGTGCAGCAAAATGGTCCATCTGCACCTCCAATGGAAGACAGGAATGTAGATTATATA 1353

.....
.....
.....
.....G.....
.....
.....
.....
.....
.....
.....
.....G.....
.....G.....
.....
.....C.....
.....

FIG. 2D



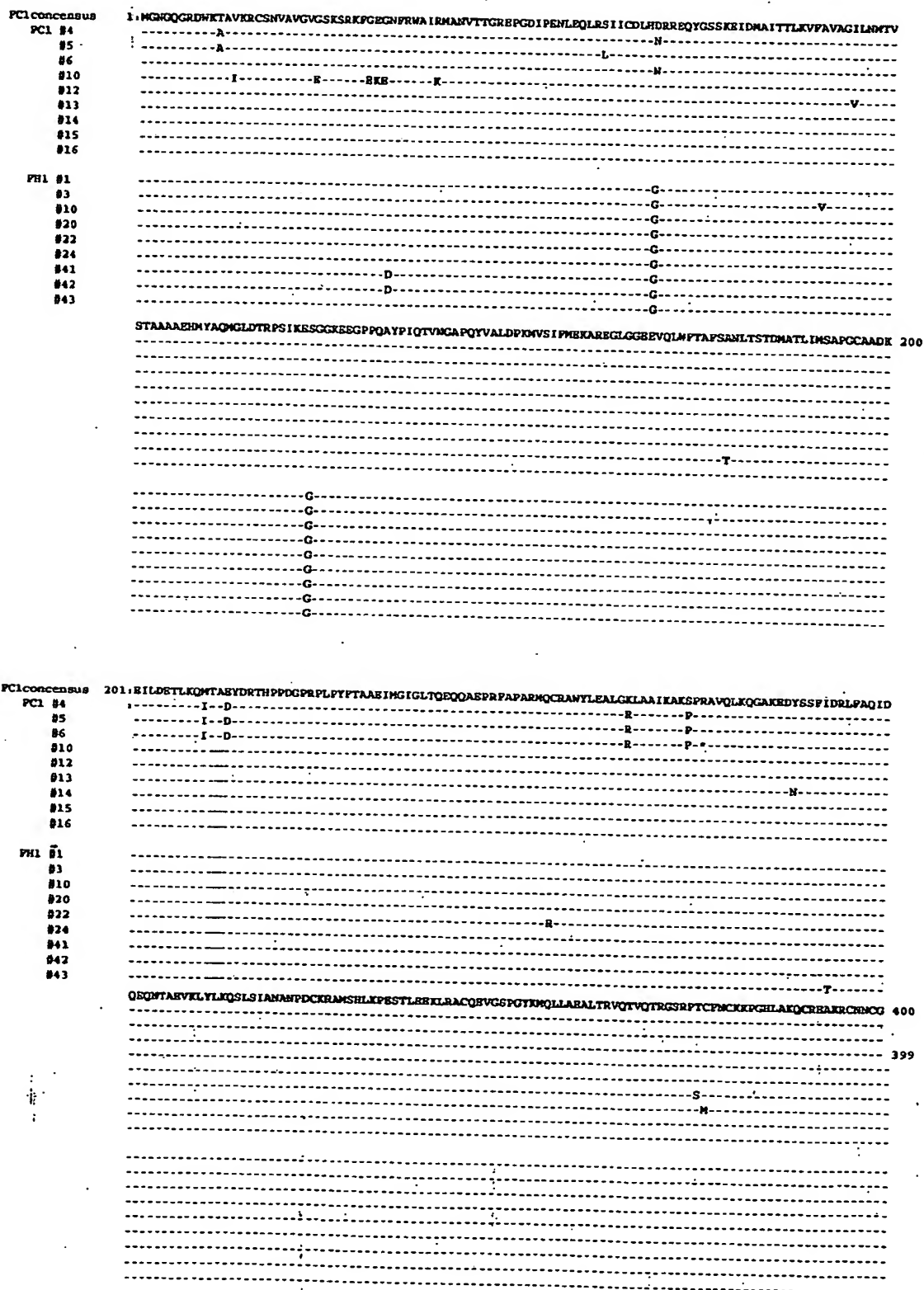


FIG. 2E

PC1consensus 401:KPGHLAANCWQKKTGNGGNGPAAAPVNVQGMVPSAPPNEDKLLDL 450
FC1 #4 :-----P-----
#5 :-----
#6 400:----- 449
#10 :-----
#12 :-----
#13 :-----
#14 :-----
#15 :-----
#16 :-----
PH1 #1 :-----
#3 :-----
#10 :-----G-----
#20 :-----C-----
#22 :-----C-----
#24 :-----
#41 :-----A-----
#42 :-----A-----
#43 :-----

FIG. 2F



PH1
 FC1
 PETALUMA
 UKS
 PPR
 SENDAI-1
 BANGSTON
 AOMORI-1
 AOMORI-2
 SENDAI-2
 TM2
 YOKOHAMA
 SHIZUOKA
 FUKUOKA

1. ATGGGGAATGGACAGGGGCGAGACTGGAGACGGCGCTTAAGAGATGTAGTAATGTTGCTGTAGGGGTAGGGAGTAAGACTAGAAAGTTTGGAGAAGCAA

-----T-----A-T-----A-----A-----G-G-----A-----A-----G-----

-----T-----A-T-----A-----C-----A-----G-G-----A-----A-----G-----

-----T-----A-T-----A-----A-----A-----G-G-----A-----A-----G-G-----

-----T-----T-T-----A-T-----A-----A-----A-----G-G-G-----A-----A-----

-----A-T-----A-----A-----A-----GA-----C-----

-----T-----A-----A-----A-----TACG-----ACAACGA-----AG-----C-----G-----

ACTTTAGGTGGCCATAAGGATGGCTAATGTAACTACAGGACGGAACCTGGTGATATACCGAGAGAATTTAGAACAGTTAAGATGCGATTATTGTGATT 200

-----T-----C-----A-----T-----A-----T-----C-----T-----AC-----G-----T-----G-----C-----

-----T-----C-----A-----C-----A-----T-----C-----T-----AC-----G-----G-----T-----G-----C-----

-----T-----C-----A-----A-----T-----C-----T-----A-----G-----T-----G-----C-----

-----T-----C-----A-----T-----A-----C-----T-----C-----T-----AC-----G-----T-----G-----C-----A-----

-----A-----A-----C-----A-----

-----T-----A-----T-----G-----A-----C-----G-----T-----CC-----T-----AC-----G-----GTAC-----C-----

PH1
 FC1
 PETALUMA
 UKS
 PPR
 SENDAI-1
 BANGSTON
 AOMORI-1
 AOMORI-2
 SENDAI-2
 TM2
 YOKOHAMA
 SHIZUOKA
 FUKUOKA

201. ACATGGCCAGAGAGAACAAATATGGATCTAGTAAGAAATTGATATGGCAATTACCACTTTAAAAGTTTTTCCAGTAGCTGCAATTTTAAATATGACTGTG

-----A-----A-----A-----T-----C-----GTG-----A-----C-----G-----A-----C-----G-----

-----A-----AA-----A-----T-----C-----C-----C-----TG-----C-----A-----

-----A-----AA-----A-----T-----C-----C-----A-----A-----C-----TG-----C-----A-----

-----A-----AA-----A-----T-----C-----T-----G-----C-----T-----T-----A-----C-----C-----G-----TA-----C-----A-----

-----A-----AA-----A-----T-----C-----G-----G-----GTT-----G-----A-----C-----A-----

-----A-----A-----C-----G-----A-----C-----A-----

-----A-----A-----C-----G-----A-----C-----A-----

-----G-----AA-----G-----GA-----T-----C-----C-----CCT-----C-----A-----G-----C-----T-----A-----

CT-----C-----A-----C-----A-----C-----TA-----C-----A-----

TCTACTGGCCAGGAGCTGAACACATGTATGCTCAGATGGGATTAGATACCGACCATCTATAAAGAGGCTGGGGGAAAGAGAGGACCTCCACAGG 400

-----T-----T-----A-----T-----T-----A-----C-----T-----G-----G-----CA-----T-----G-----C-----

-----T-----T-----A-----T-----A-----C-----T-----C-----G-----C-----A-----G-----C-----

-----T-----T-----A-----T-----A-----C-----T-----G-----C-----CC-----A-----G-----C-----

-----T-----T-----A-----T-----AA-----A-----C-----T-----G-----C-----CA-----A-----G-----C-----

-----T-----T-----A-----T-----A-----C-----G-----C-----G-----CA-----A-----G-----A-----C-----

-----A-----A-----T-----A-----C-----C-----A-----A-----G-----A-----C-----

-----A-----A-----T-----A-----C-----C-----A-----A-----G-----A-----C-----

-----A-----A-----T-----A-----C-----G-----A-----A-----G-----A-----C-----

-----A-----A-----T-----A-----C-----A-----A-----G-----A-----C-----

-----TA-----T-----C-----A-----T-----T-----T-----G-----G-----CA-----A-----G-----T-----G-----AG-----

-----T-----A-----T-----T-----G-----G-----CA-----A-----G-----T-----G-----AG-----

FIG. 4A

PH1
PCI
PETALUMA
UK8
PPR
SENDAI-1
BANGSTON
ACMORI-1
ACMORI-2
SENDAI-2
TM2
YOKOHAMA
SHIZUOKA
FUKUOKA

401: CTTATCCTATTCAAACAGTAAATGGAGCACCACAGTATGTAGCCCTTGACCCAAAATGGTGCCATCTTTATGGAAAAAGCAAGAGAGGGGTAGGAGG

T-----T-----
-A-----T-----A-----A-----T-----G-----A-----A-----
-A-----A-----T-----T-----C-----G-----A-----T-----
-A-----A-----A-----A-----T-----G-----A-----AT-----
-A-----T-----A-----A-----T-----T-----A-----AT-----
-A-----A-----A-----A-----T-----G-----A-----A-----
-----T-----T-----G-----G-----
-----T-----T-----G-----G-----
-----T-----T-----G-----G-----
-----T-----T-----G-----G-----
-----T-----T-----G-----G-----
-A-----C-----C-----A-----G-----A-----G-----T-----T-----A-----AT-----
-A-----C-----A-----A-----G-----G-----T-----T-----T-----C-----G-----A-----AT-----

TGAGGAGGTCCAACTGTGGTTCACAGCCCTTTCTCTCTAATTAACTTCAACTGATATGGCTACATTAATTATGTCTGCCCTGGCTGTCCAGCAGATAAA 600

-----A-----T-----A-----T-----T-----C-----A-----AC-----T-----C-----C-----A-----G-----C-----A-----A-----G-----C-----T-----
-A-----A-----T-----A-----T-----C-----A-----AC-----T-----C-----C-----A-----G-----C-----A-----A-----G-----C-----T-----
-A-----T-----A-----T-----C-----A-----AC-----T-----C-----C-----A-----G-----C-----A-----C-----G-----C-----T-----
-A-----T-----A-----T-----T-----C-----A-----AC-----T-----C-----C-----A-----G-----C-----A-----A-----G-----C-----T-----
-A-----T-----T-----A-----T-----T-----C-----A-----AC-----T-----C-----C-----A-----G-----C-----A-----A-----G-----C-----T-----
-----A-----A-----A-----C-----A-----T-----
-----A-----A-----A-----C-----A-----
-----A-----A-----A-----C-----A-----
-----C-----A-----A-----A-----C-----C-----C-----A-----
A-----A-----T-----T-----A-----A-----C-----A-----C-----C-----A-----A-----T-----G-----
A-----A-----T-----T-----A-----T-----T-----A-----A-----A-----C-----A-----A-----T-----G-----

PH1
PCI
PETALUMA
UK8
PPR
SENDAI-1
BANGSTON
ACMORI-1
ACMORI-2
SENDAI-2
TM2
YOKOHAMA
SHIZUOKA
FUKUOKA

601: GAGATCTTAGATGAACACTGAAACAGATGACAGCTGAGTATGATCTGACTCATCTCTGATGGGCTAGACCGCTGCCCTATTTCAACCGCTGCCGAGA

-----A-----A-----G-----GCT-----A-----G-----AC-----A-----A-----C-----A-----C-----CT-----C-----AT-----A-----T-----T-----A-----A-----
-A-----A-----G-----GCT-----A-----G-----A-----A-----A-----A-----C-----T-----AT-----A-----A-----T-----T-----G-----A-----A-----
-A-----A-----G-----GCT-----A-----G-----AT-----A-----A-----G-----AA-----C-----T-----AT-----A-----T-----T-----A-----A-----
-A-----A-----G-----GCT-----A-----G-----AT-----A-----A-----A-----C-----CT-----AT-----A-----T-----T-----A-----A-----
-A-----A-----G-----GCT-----A-----G-----AT-----A-----A-----A-----C-----T-----C-----AT-----A-----T-----T-----A-----A-----
-A-----TC-----G-----G-----C-----C-----T-----C-----A-----
-A-----C-----G-----C-----C-----T-----C-----A-----
-GA-----AC-----G-----C-----C-----T-----C-----A-----
-A-----C-----C-----C-----T-----C-----A-----
-A-----AC-----C-----C-----T-----C-----A-----
-A-----T-----T-----TA-----A-----A-----C-----C-----G-----C-----T-----A-----T-----T-----A-----A-----
-A-----T-----G-----T-----TA-----G-----A-----C-----C-----G-----C-----T-----A-----C-----T-----T-----A-----A-----

TTATGGGAATAGGATTAACTCAAGAACACACAGCGAGCCAGATTTCACACAGCTAGATGCAGTGTAGAGCATGGTATCTTGAAGCACTAGCAAGTT 800

-----G-----A-----AG-----A-----G-----C-----G-----T-----A-----
-----T-----A-----AG-----A-----G-----G-----G-----T-----A-----
-----T-----A-----AG-----A-----G-----A-----G-----T-----A-----
-----T-----A-----AG-----A-----G-----G-----G-----T-----A-----
-----C-----A-----AG-----A-----G-----G-----G-----T-----AC-----
-----G-----A-----AG-----G-----C-----C-----T-----AC-----
-----G-----C-----A-----G-----C-----C-----T-----
-----G-----A-----G-----C-----C-----T-----
-----G-----A-----G-----C-----C-----T-----
-----G-----A-----G-----C-----C-----T-----
-----G-----A-----G-----C-----C-----T-----
-----G-----A-----A-----T-----A-----C-----T-----GAGT-----
-----G-----A-----A-----T-----A-----C-----T-----GAGT-----

FIG. 4B

-A-A-T	-T-T-A	-G-A	-T	TG	C	-A	-C-C	-G
-A-A-T	-T-A-A	-G-A-A	-G-T	TG	A-C	-A	-C	-G
-A-A-T	-T-T-A	-G-A	-T	TG	A-C	-A	-G	-G
-A-A-T	-T-AT-A	-G-A-A	-T	TG	A-C	-AA	-C	-G
-A-A-T	-T-T-A	-G-A-A	-T-T	TG	-A	-A	-C-C	-G
		-A-T	-T	-T	-A	-A		
		-C	-A-T-T	-T	-A	-A	-A	
-A		-A-T	-T	-T	-A	-A		
		-A-T	-T	-T	-A	-A		
		-A-T	-T	-T	-A	-A		
-A-T	-T	-G-A	-T	C	C	-G	-C	-T-G
-A-T	-T	-G-A-T	-T		C	-G-A	-C	-T-A-G

PH1	1001	CAGCAGTACTTTTACGGCAAAATCTGAGAGCCTGTCAAGAGGTAGGATCACAGGATATAAATGCGAGTTGTTTACGAGAAAGCTCTTACAAAGGTTTCAGAC	
PC1		-----A-----CC-----A-----GT-----T-----AA-----C-----AC-C-G-----AA-----AGT	
PETALUMA		-----A-----T-----CC-----A-----GT-----A-----C-----AC-C-G-----AA-----AGT	
UK8		-----A-----CC-----A-----GT-----T-----A-----C-----AC-C-G-----AA-----AGT	
PPR		-----A-----CC-----A-----GT-----T-----A-----C-----AC-C-G-----AA-----AGT	
SENDAI-1		-----A-----CC-----A-----GT-----T-----A-----A-----AC-C-G-----G-----AA-----AGT	
BANGSTON		-----A-----CC-----A-----GT-----T-----A-----A-----AC-C-G-----G-----AA-----AGT	
ACMORI-1		-----A-----CC-----A-----GT-----T-----A-----A-----AC-C-G-----G-----AA-----AGT	
ACMORI-2		-----A-----CC-----A-----GT-----T-----A-----A-----AC-C-G-----G-----AA-----AGT	
SENDAI-2		-----A-----CC-----A-----GT-----T-----A-----A-----AC-C-G-----G-----AA-----AGT	
TN2		-----A-----CC-----A-----GT-----T-----A-----A-----AC-C-G-----G-----AA-----AGT	
YOKOHAMA		-----A-----CC-----A-----GT-----T-----A-----A-----AC-C-G-----G-----AA-----AGT	
SHIZUOKA		-----A-----CC-----A-----GT-----T-----A-----A-----AC-C-G-----G-----AA-----AGT	
FUKUOKA		-----A-----CC-----A-----GT-----T-----A-----A-----AC-C-G-----G-----AA-----AGT	

-G-T-A--G-GT-T--A-T-A-A-G-----TG-A-A--T-A-
 -G-T-A--AC-GT-T--G-G-T-A-A-G-G-----TG-A-A--T-A-
 -G-T-A--AC-GT-T--G-T-A-A-G-G-----T-TG-A-A--T-A-
 -A-T-A--AC-GT-T--A-T-A-A-G-G-----T-TG-A-A--T-A-
 -A-C-A-G-T-CT-----T-G-----A-G-----T-
 -C-A-C-A-A-GTA-T-----T-A-T-G-----T-TG-A--T-A-

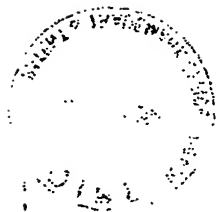
FIG. 4C

PH1 1201:AAACCTGGTCACTTAGCTGCTAATTGCTGGCAAGAGGTAATAAAACCCCGGGAACCGGGAAGATGGGGCCAGCTGCAGCCCCGGTAAACCAAGTGCAGC
 FC1 -----
 PETALUMA -----TG-----C-----T-----G--AA--G--G-ATT-----T-----GC-----G-----A--G--T--A-----
 UKS -----G-----T-----C-GA-----GG-T-----G-A-T-----T-----GC-----G-----A-----A-----
 PPR -----T-----C-A--T-----G-T-----G-ATT-----T-----GC-----G-----A--G--T-----
 SENDAI-1 -----G-----T-----C-A--T-----G-T-----G-ATT-----GC-----G-----A--G--T-----
 BANGSTON -----
 AOMORI-1 -----G-----GG-----T-----A--G--G-----A-----
 AOMORI-2 -----
 SENDAI-2 -----G-----C-T--G-----C-A--T-----G--A-C-G--TG-TT-----G-----A-----
 TM2 -----
 YOKOHAMA -----
 SHIZUOKA -----
 FUKUOKA -----

AAATGGT***GCCATCTGCACCTCCAATGGAAGACAGGAAATGTTAGATTATATA 1353

 --GCA--AAT-----G--G-AACT--GATTTA-A-
 --GCA--AAT-----G--G-AACT--GATTTA-A-
 --CA--AAT-----G--A-AATT--GATTTA-A-A
 --GCA--AATA-----T--A--G--G-AACT--GATTTA-A-
 --A--***A-----G--G-AACT--AGATTTA-A-
 --GCA--***-----T-----G-----G-A-TTG--AGATTTA-A-

FIG. 4D



Consensus --C-GC-GCTGAA-A-ATGTA--CTCA-ATGGGATTAGA-AC-AG-CCATCT--A--GA-----GG-GGAAA-G--G 385
 Pet gag TGCTGCAGCTGAAAAATATGTATTCTCAATGGGATTAGACACTAGGCCATCTATGAAAGAAAGCAGGTGGAAAAAGAGG 385
 Bang TGCTGCAGCTGAAAAATATGTATTCTCAATGGGATTAGACACTAGGCCATCTATGAAAGAAAGCAGGTGGAAAAAGAGG 385
 JSY3 gag O TGCTGCAGCTGAAAAATATGTATTCTCAATGGGATTAGACACTAGGCCATCTATGAGAGAAAGCAGGAGGAAAAAGAGG 385
 UK8 gag TGCTGCAGCTGAAAAATATGTATTCTCAATGGGATTAGACACTAGGCCATCTATGAGAGAAAGCAGGAGGAAAAAGAGG 385
 Shizuoka TACTGCCGCTGAAAAATATGTATTCTCAATGGGATTAGACACTAGGCCATCTTTAAAGGAGGAGGAGGAAAAAGAGG 385
 Aomori 1 CACAGCAGCTGAAAAATATGTATTCTCAATGGGATTAGACACTAGGCCATCTATGAGAGAAAGCAGGAGGAAAAAGAGG 133
 TM2 gag CACAGCAGCTGAAAAATATGTATTCTCAATGGGATTAGACACTAGGCCATCTATGAGAGAAAGCAGGAGGAAAAAGAGG 133
 RT Forward -----
 RT Probe ----- 0
 RT Reverse ----- 0
 FC1 GAG CGCAGCAGCTGAACACATGTATGCTCAGATGGGATTAGATACCAGACCATCTATAAAAGAAAGTGGGGGAAAAAGAG 385
 A9=4 ----- 0
 B4=5 ----- 0

Consensus A--G--CCTCCACAGGC-T-TCCTAT-CAAAACA--AAATGGAG-ACCA-A--A-GTAGC-CT-GA-CC-AAAATGGT 462
 Pet gag AAGGC-CCTCCACAGGCATATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 461
 Bang AAGC-CCTCCACAGGCATATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 461
 JSY3 gag O AAGC-CCTCCACAGGCATATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 461
 UK8 gag AAGC-CCTCCACAGGCATATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 461
 Shizuoka A-GGAGCCTCCACAGGCATATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 461
 Aomori 1 AAGGA-CCTCCACAGGCTTATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 209
 TM2 gag AAGGA-CCTCCACAGGCTTATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 209
 RT Forward --AGC-CCTCCACAGGCATCTC-----
 RT Probe ----- 19
 RT Reverse ----- 31
 FC1 GAG AAGGA-CCTCCACAGGCTTATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 16
 A9=4 -TAGC-CCTCCACAGGCATATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 461
 B4=5 --AGC-CCTCCACAGGCATATCCTATTCAAACAGTAATAATGGAGTACCACAATATGTAGCACTTGACCCCAAAAATGGT 75

FIG. 10A

Consensus GTC-A-TTT-ATGA-AA-GGAAGAGA-GG--TAGGAGG-GA-GA-GT-CA--T-TGGTT-AC-GC-TT-TC-GC-A 539
 Pet gag GTCATTTTATGGAAGGCAAGAGAGGACTAGGAGGTGAGGAGTTCAACTATGGTTACTGCCTTCTCTGCAA 538
 Bang GTCATTTTATGGAAGGCAAGAGAGGACTAGGAGGTGAGGAGTTCAACTATGGTTACTGCCTTCTCTGCAA 538
 JSY3 gag O GTCATTTTATGGAAGGCAAGAGAGGATTAGGAGGTGAGGAGTTCAAGCTATGGTTTACTGCCTTCTCTGCAA 538
 UK8 gag GTCATTTTATGGAAGGCAAGAGAGGTTAGGAGGTGAAGAGTTCAACTATGGTTACAGCCTTCTCTGCAA 538
 Shizuoka GTCATTTTATGGAAGGCAAGAGAGGATTAGGAGGAGGAGGTCCTCAACTATGGTTACTGCATTTTCAGCTA 286
 Aomori 1 GTCATTTTATGGAAGGCAAGAGAGGAGGCTAGGAGGTGAGGAGGTCCTCAACTATGGTTACAGCCTTTTCAGCTA 286
 TM2 gag GTCATTTTATGGAAGGCAAGAGAGGAGGCTAGGAGGTGAGGAGGTCCTCAACTATGGTTACAGCCTTTTCAGCTA 538
 RT Forward ----- 19
 RT Probe ----- 31
 RT Reverse GTCCA ----- 21
 FC1 GAG GTCATTTTATGGAAGGCAAGAGAGGAGGCTAGGAGGTGAGGAGGTCCTCAACTATGGTTACAGCCTTTTCAGCTA 538
 A9=4 G ----- 76
 B4=5 GTCCAA ----- 80

Consensus AT-TAAC--C-ACTGA-ATGGC-ACATTAAT-ATG-C-GC-CC-GG-TG-GC-GCAG-TAA-GA-AT--T-GA-GAA 616
 Pet gag ATTTAACACCTACTGACATGGCCACATTAATAATGGCCGCCACCCAGGGTGGCTGCAGATAAAGAAATATTGGATGAA 615
 Bang ATTTAACACCTACTGACATGGCCACATTAATAATGGCCGCCACCCAGGGTGGCTGCAGATAAAGAAATATTGGATGAA 615
 JSY3 gag O ATTTAACACCTACTGACATGGCCACATTAATAATGGCCGCCACCCAGGGTGGCTGCAGATAAAGAAATATTGGATGAA 615
 UK8 gag ATTTAACACCTACTGACATGGCCACATTAATAATGGCCGCCACCCAGGGTGGCTGCAGATAAAGAAATATTGGATGAA 615
 Shizuoka ATCTAACATCAACTGATATGGCTACATTAATCATGTCTGGACCAGGTTGTGCAGCAGATAAGGAGATCTTAGATGAA 363
 Aomori 1 ATTTAACATCAACTGATATGGCTACATTAATATGTCCGCCACCTGGCTGTGCAGCAGATTAAAGAAATCTTAGATGAA 363
 TM2 gag ATTTAACATCAACTGATATGGCTACATTAATATGTCCGCCACCTGGCTGTGCAGCAGATAAAGAAATCTTAGATGAA 615
 RT Forward ----- 19
 RT Probe ----- 31
 RT Reverse ----- 21
 FC1 GAG ATTTAACTCAACTGATATGGCTACATTAATATGTCTGGCCCTGGCTGTGCAGCAGATAAAGAGATCTTAGATGAA 615
 A9=4 ----- 76
 B4=5 ----- 80

FIG. 10B